



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,745	09/23/2003	David W. Boggs	884.942US1	1789
21186	7590	01/24/2006	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH 1600 TCF TOWER 121 SOUTH EIGHT STREET MINNEAPOLIS, MN 55402			DINH, TUAN T	
			ART UNIT	PAPER NUMBER
			2841	

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/668,745

Applicant(s)

BOGGS ET AL.

Examiner

Tuan T. Dinh

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 and 28-30 is/are pending in the application.
- 4a) Of the above claim(s) 17-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 28-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09/23/03 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's election without traverse of Group I, Specie I (claims 1-16, and 28-30) in the reply filed on 11/07/05 is acknowledged.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "memory communicatively coupled to the processor (claim 10, line 3)" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

By applying art, the examiner assumes that claim 10, line 3 should be read - - a memory electrical communicatively to the processor - -.

Claim Objections

3. Claims 1, 5, 6, 10, and 29-30 are objected to because of the following informalities:

Claim 1, lines 7-8, change "a plurality of component mounting pads" to - - the plurality of component mounting pads - - for proper antecedence basis.

Claim 5, lines 2-3, change "a component mounting pads" to - - the component mounting pad - - for proper antecedence basis.

Claim 5, line 4, change, "a plurality of component mounting pads" to - - the plurality of component mounting pads - - for proper antecedence basis.

Claim 6, line 3, change "a component mounting pads" to - - the component mounting pads - - for proper antecedence basis.

Claim 6, lines 4-5, change "a plurality of component mounting pads" to - - the plurality of component mounting pads - - for proper antecedence basis.

Claim 10, line 11, change, "a plurality of component mounting pads" to - - the plurality of component mounting pads - - for proper antecedence basis.

Claims 29-30, line 1, "The device of claim 1" changed to - - The device of claim 28 - - for proper antecedence basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-16, and 28-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Brinthaup, III et al. (U.S. Patent 6,521,842, hereafter Brinthaup).

As to claims 1-4, 7-9, and 28-30, Brinthaup discloses a device, which is a semiconductor chip having a multilayer circuit board (100, column 1, lines 61-62) as shown in figures 1-2 comprising:

first and second major exterior surfaces (top and bottom surfaces 106, 112, column 2, line 10), at least one of the first and second major exterior surfaces including a plurality of component mounting pads (105, column 1, line 63);

a plane metallization layer (a feature, which is a trace), which is power, ground, or reference voltage planes (121-132) within the device; a plated through hole or vias (110A-110C) attached to the plane metallization layer and terminating at the at least one of the first and second major exterior surfaces (106, 112) including the plurality of

component mounting pads (105), the plated through hole (110) attached to the plane metallization layer (121-132), and electrically isolated from the plurality of component mounting pads (105).

As to claim 5, Brinthaup further comprising a signal carrying plated through hole which passes through the plane metallization layer (121-132) within the device (100) and terminates at the component mounting pad (105) at the at least one of the first and second major exterior surfaces including a plurality of component mounting pads (105).

As to claim 6, Brinthaup discloses the signal carrying plated through hole which passes through the plane metallization layer (121-132) is electrically isolated from the plane metallization layer and is connected (electrical) to the component mounting pad at the at least one of the first and second major exterior surfaces including a plurality of component mounting pads (105).

As to claims 10-15, Brinthaup discloses a system as shown in figures 1-2 comprising:

a processor and a memory (active components 160, column 1, line 34, column 2, line 31) are electrical communication; and

a device, which is a printed circuit board or a portion of a semiconductor chip (100) associated with at least one of the memory or the processor further including:

first and second major exterior surfaces (top and bottom surfaces 106, 112, column 2, line 10), at least one of the first and second major exterior surfaces including a plurality of component mounting pads (105, column 1, line 63); a plane metallization layer, which is power, ground, or reference voltage planes (121-132) within the device;

a plated through hole or vias (110A-110C) attached to the plane metallization layer and terminating at the at least one of the first and second major exterior surfaces (106, 112) including the plurality of component mounting pads (105), the plated through hole (110) attached to the plane metallization layer (121-132), and electrically isolated from the plurality of component mounting pads (105).

As to claim 16, Brinthaup discloses the signal carrying plated through hole which passes through the plane metallization layer (121-132) is electrically isolated from the plane metallization layer and is connected (electrical) to the component mounting pad at the at least one of the first and second major exterior surfaces including a plurality of component mounting pads (105).

Conclusion

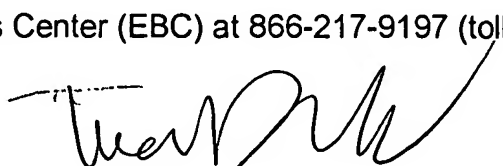
6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. McKiddy, Bhatt et al., Fang, Kwong et al., and Stoddard et al. disclose related art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Dinh whose telephone number is 571-272-1929. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2841

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Tuan Dinh', with a long, sweeping flourish extending from the end.

Tuan Dinh
January 16, 2006.